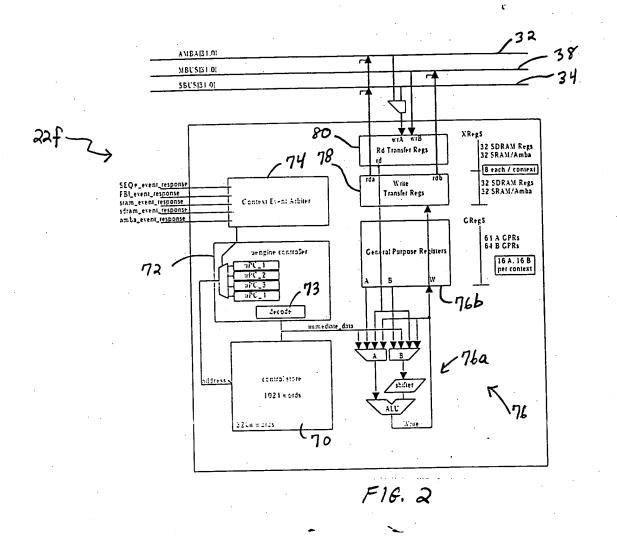
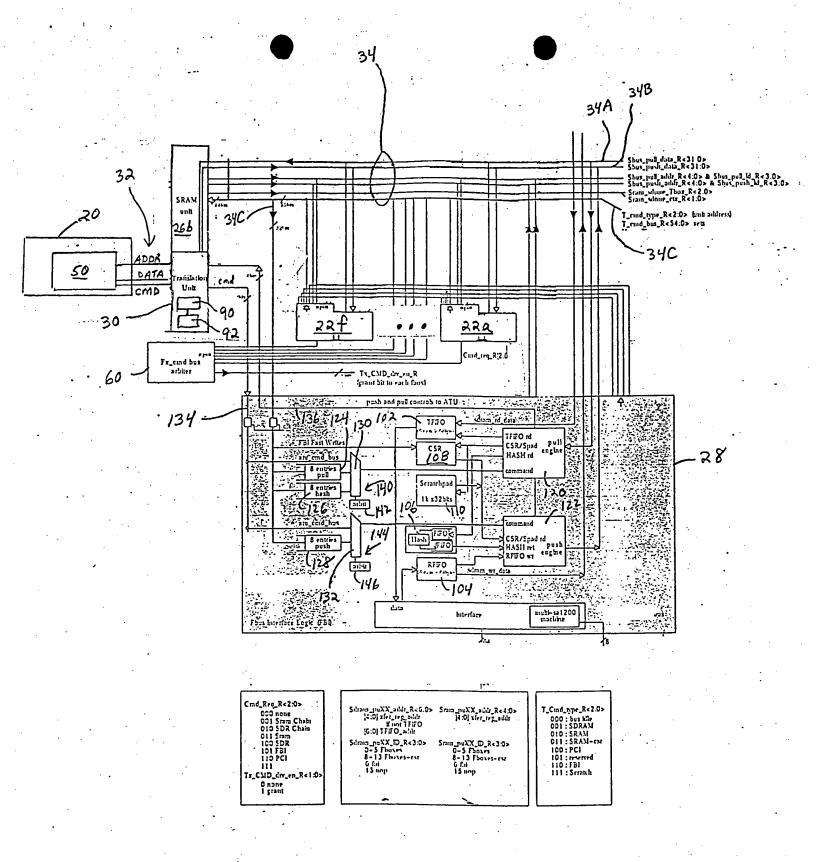


F1G. 1





F1G. 3

ADDRESS SPACE (Hexadecimal)

(Hexadecimai)	<u> </u>	
FFFF FFFF		
E7FF FFFF	-	
E000 0000		
C000 0000	SDRAM	
B000 0000	TRANSLATION UNIT 30	
A000 0000	PCI CONFIG	
9000 0000	SYSTEM	
8000 0000	MAC & SRAM CONTROL REGISTERS	
4000 0000	PCI UNIT	
	3	
0000 0000	SRAM	

		· · · · · · · · · · · · · · · · · · ·
Hexadecimal	Mapped Addresses	XXXX (Binary)
B004 XXXX	FBUS Interface (28) Scratchpad (110)	0100 xxxx xxxx xxxx
B004 XXXX	FBUS Interface (28) Registers (108)	0000 xxxx xxxx xxxx
B000 XXXX	Micro-engine (22a) Registers (78, 80)	0110 1xxx xxxx xxxx
	Micro-engine (22b) Registers (78, 80)	0110 0xxx xxxx xxxx
•	Micro-engine (22c) Registers (78, 80)	0001 1xxx xxxx xxxx
	Micro-engine (22d) Registers (78, 70)	.0001 0xxx xxxx xxxx
	Micro-engine (22e) Registers (78, 80)	0000 1xxx xxxx xxxx
	Micro-engine (22f) Registers (78, 80)	0000 0xxx xxxx xxxx
B000 XXXX	Micro-engine (22a) Registers (76b)	0010 1xxx xxxx xxxx
	Micro-engine (22b) Registers (76b)	1101 Oxxx xxxx xxxx
	Micro-engine (22c) Registers (76b)	0001 1xxx xxxx xxxx
	Micro-engine (22d) Registers (76b)	0001 0xxx xxxx xxxx
	Micro-engine (22e) Registers (76b)	0000 1xxx xxxx xxxx
	Micro-engine (22f) Registers (76b)	0000 0xxx xxxx xxxx

200	CPU 20 sends a WRITE command to the address space of the particular destination in the FBUS interface unit 28
• •	
202	Translation unit 30 latches the address and command type from the bus 32 and translates the address and WRITE
·	command to a corresponding command in a format that simulates the format used by the pull engine 120
	$igg\downarrow$
204	Translation unit 30 uses sideband command bus 134 to
	pass the translated command to a command interface 140
•	for the pull engine 120 (step 204)
•	
206	Command interface 140 passes the translated WRITE
	command to the pull engine 120
	$m{ u}$
208	Pull engine 120 executes the command
0.10)	Dull and 120 accepts control gignal
210	Pull engine 120 asserts control signal (wr to_pull_data) which is sent to the translation unit
	30 via a control bus 136
•	
212	Translation unit 30 promotes the WRITE data onto the bus
	34A
214	Pull engine promotes the data to the FBUS interface
•	destination indicated by the translated WRITE command

CPU 20 sends a WRITE command to the address space of a 220 particular register in one of micro-engines 22 Translation unit 30 latches the address and command type 222 from the bus 32 and translates the address and the WRITE command to a corresponding command in a format used by the push engine 122 Translation unit 30 uses the sideband command bus 134 to 224 pass the translated command to the command interface 144 for the push engine 122 Command interface 144 passes the translated command to 226 the push engine 122 Push engine 122 executes the command 228 control signal Push engine 122 asserts 230 (wr to push data) Push engine 122 asserts address signals on address bus 232 (Sbus_push_addr) 34C to enable the micro-engine 22 specified by the original WRITE command to accept the

FIG. 6

data on the Sbus push data bus 34B

CPU 20 sends a READ command to the address space of the 240 particular destination in the FBUS interface Translation unit 30 latches the address and command type 242 from the bus 32 and translates the address and READ command to a corresponding command in a format that simulates the format used by the push engine 122 Translation unit 30 uses the sideband command bus 134 to 244 pass the translated command to the command interface 144 which passes the translated command to the push engine Push engine 122 executes the READ command to place the 246 data from the FBUS interface destination that was specified in the READ command onto the Sbus-Push_data bus 34B control signal (rd_from_push Push engine 122 asserts 248 _data) on the bus 136 Translation unit 30 promotes the data from the bus 34B 250 to the core processor bus 32 so that the data can be received by the CPU 20

260	CPU 20 sends a READ command to the address space of the
···	particular register in one of the micro-engines 22
262	Translation unit 30 latches the address and command type from the bus 23 and translates the address and the READ command to a corresponding command in a format used by the pull engine 120
264	Translation unit 30 uses the sideband command bus 134 to pass the translated command to the command interface 140
	\downarrow
266	Command interface 140 passes the translated READ command to the pull engine 120
268	Pull engine 120 executes the command so that the data from the micro-engine register specified in the READ command is placed on the Sbus_pull_data bus 34A
270	Pull engine 120 asserts control signal (rd_from_pull_data) which is sent to the translation unit 30 via the
·	control bus 136
272	Translation unit 30 promotes the data from the bus 34A to the core processor bus 32 so that the data can be received by the CPU 20

FIG. 8